Claims:

What is claimed is:

5   1.   A system for software application development and modeling, capable of
being integrated with a software application design modeling tool, comprising:
            an expert system for developing software application designs; and,
            an interface to a software application design modeling tool for modeling
said software application designs.

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2.   The system of claim 1 wherein said expert system further includes means
for specifying application design requirements.

3.   The system of claim 2 wherein said expert system further includes means
15   for analyzing said application design.

4.   The system of claim 3 wherein said expert system further includes means
for modifying said software application design.

20   5.   The system of claim 4 wherein said expert system further includes means
for software application code generation and implementation.

6.   The system of claim 5 wherein said expert system further includes means
for testing said software application implementation.

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7.   The system of claim 4 wherein said means for modifying said software
application design includes means for applying applying a data entity pattern.

8.   The system of claim 1 wherein said expert system is provided as a plugin to the system for software application development and modeling.

9.   The system of claim 1 further comprising:

5   a database interface to allow retrieval of application design data from a relational database; and,

          an interface repository for storing interface definition language files.

10.   The system of claim 1 further comprising:

10   means for reverse engineering an interface definition language file to extract application design information.

11.   A system for software application development and modeling, to be used with Rational Rose modeler, comprising:

15   an integrated software development graphical environment;

          a Rational Rose plugin tool, accessible via said integrated software development graphical environment, for developing software application designs; and,

          a Rational Rose modeler, include within said integrated software

20   development graphical environment, for modeling said software applications.

12.   The system of claim 11 wherein said integrated software development environment further includes means for specifying application design requirements.

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13.   The system of claim 12 wherein said integrated software development environment further includes means for analyzing said application design using

UML.

14.   The system of claim 13 wherein said integrated software development environment further includes means for modifying said software application

5   design.

15.   The system of claim 14 wherein said integrated software development environment further includes means for software application code generation and implementation.

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16.   The system of claim 15 wherein said integrated software development environment further includes means for testing said software application implementation.

15   17.   The system of claim 14 wherein said means for modifying said software application design includes means for applying applying a data entity pattern.

18.   The system of claim 11 wherein said integrated software development environment is provided as a plugin to the system for software application

20   development and modeling.

19.   The system of claim 11 further comprising:
        a database interface to allow retrieval of application design data from a relational database;

25   an interface repository for storing interface definition language files.

20.   The system of claim 11 further comprising:

means for reverse engineering an interface definition language file to extract application design information.

21. An system for integrated software development and testing, comprising:

an expert system for developing software application designs;

a modeler for modeling said software applications;

a model repository for one of storing and retrieving application design models to be used with said modeler; and,

a software generator for generating software code in accordance with said application designs and said application design models.

22. The system of claim 21 wherein said expert system further includes means for specifying application design requirements.

23. The system of claim 22 wherein said expert system further includes means for analyzing said application design.

24. The system of claim 23 wherein said expert system further includes means for modifying said software application design.

25. The system of claim 24 wherein said expert system further includes means for software application code generation and implementation.

26. The system of claim 25 wherein said expert system further includes means for testing said software application implementation.

27. The system of claim 24 wherein said means for modifying said software

application design includes means for applying applying a data entity pattern.

28.   The system of claim 21 wherein said expert system is provided as a plugin to the system for software application development and modeling.

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29.   The system of claim 21 further comprising:

a database interface to allow retrieval of application design data from a relational database; and,

an interface repository for storing interface definition language files.

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30.   The system of claim 21 further comprising:

means for reverse engineering an interface definition language file to extract application design information.

15   31.   A system for software modeling that allows a software developer to utilize the modeling features of Rational Rose with a Rose plugin for software application design, comprising:

an expert system for developing software application designs;

a Rational Rose modeler for modeling said software applications;

20   a model repository for one of storing and retrieving application design models to be used with said Rational Rose modeler; and,

a software generator for generating software code in accordance with said application designs and said application design models.

25   32.   The system of claim 31 wherein said expert system further includes means for specifying application design requirements.

33.   The system of claim 32 wherein said expert system further includes means for analyzing said application design.

34.   The system of claim 33 wherein said expert system further includes
5   means for modifying said software application design.

35.   The system of claim 34 wherein said expert system further includes means for software application code generation and implementation.

10   36.   The system of claim 35 wherein said expert system further includes means for testing said software application implementation.

37.   The system of claim 34 wherein said means for modifying said software application design includes means for applying applying a data entity pattern.
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38.   The system of claim 31 wherein said expert system is provided as a plugin to the system for software application development and modeling.

39.   The system of claim 31 further comprising:
20   a database interface to allow retrieval of application design data from a relational database; and,
           an interface repository for storing interface definition language files.

40.   The system of claim 31 further comprising:
25   means for reverse engineering an interface definition language file to extract application design information.